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EXAMINER

SHEDRICK, CHARLES TERRELL

ART UNIT

PAPER NUMBER

2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,845	Applicant(s) ESCOTT, DANIEL R.	
	Examiner CHARLES SHEDRICK	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/3/09 have been fully considered but they are not persuasive.

2. **Claim Rejections under 35 U.S.C. § 102(b)**

Claims 1-4, 6, and 12-23 were rejected under 35 U.S.C. § 102(b) as being unpatentable over International Publication No. WO 00/51380 to Rimpela et al. ("Rimpela").

Applicant's Specification describes a radio device testing system that includes a perturbation means that "enables perturbation and subsequent monitoring of a radio stack operation" and that "may also directly alter data in a radio message en-route through the software stack." Applicant's Specification, Abstract.

Applicant argues that Rimpela does not disclose the alteration of radio message data en-route through a radio stack.

3. However, The Examiner respectfully disagree. Based on a careful review of the Applicants specification the Examiner submits the following. According to the Applicants Specification the messages are altered based on the particular layer of the stack being tested. In other words, the message is altered **from a** particular endpoint (e.g., message dispatcher module) and sent through the stack and monitored for analysis (e.g., see printed publication 2008/0027669 paragraph 0029). According to the claim language "en route" implies that the message is modified mid transit of a particular route. However, it appears that the message is generated by the radio device 16 and modified by the message dispatcher 38 which can also be housed on the radio device 16. What is unclear is where the original message prior to

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modification is originated (i.e., the message and not the test script). If the message is altered en route through a particular layer then the message would appear to be generated prior to the message generator 38 and then modified by the message generator. The above noted interpretation is based on the assertion of the Applicant that “Rimpela's test procedure does not appear to alter radio data **as it passes through** the protocol layers” (i.e., the message is modified in transit. Which also implies that one message is modified since the claim language explicitly state “ a radio message”). The Examiners interpretation is the Test control computer sends a test script to the radio device. Based the script the message generator has the ability to test various layers of the protocol stack by modifying a particular message. In other words, the message generator could essentially strip away various layers of an original packet in order test the response of a particular layer of the stack. Now carefully consider the claim language below.

4. **Claim 1,**

a. A radio device testing system comprising:

radio device including a plurality of logical layers through which radio messages comprising data are processed in accordance with a radio protocol - As admitted by the Applicant in at least paragraph 0030 of the Publication this limitation is Well known.

b. test control means for controlling and monitoring testing of said radio device via a link there between - As admitted by the Applicant in at least paragraph 0025 of the Publication this limitation is Well known prior art also shown in figure 1;

c. and stack perturbation means linked to said software radio_stack and to said test control means for, under control of said test control means, altering data of a radio message en route through one of said plurality of logical layers of said software radio

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stack – In other words, customizing a test command or test message that transit any layer of the stack based on a test procedure. The following limitation reads on any test message that can be created to transit the protocol stack.

The Examiner's interpretation is based on the reasoning that the Examiner is unable to determine other means or other reasonable interpretations based on the specification as to how the message is modified mid transit. Therefore, the Examiner's interpretation is that the message generator 38 generates a customized message based on the particular layer being testing. The claim outlines that at least one layer and therefore the prior art would still read on the claim.

Claim Rejections under 35 U.S.C. § 103(a)

In addition, claims 5 and 10 are rejected as being unpatentable over Rimpela in view of admitted prior art. Claims 7-9 and 14 are rejected as being unpatentable over Rimpela in view of alleged well known art.

As an initial matter, these claims are not allowable for at least the reasons discussed with respect to claims 1 and 11, above, by virtue of their dependencies.

Applicant argues that with respect to claims 7, 9 and 14, Applicant respectfully traverses the Examiner's taking of Official Notice. In particular, with respect to claim 7, the Examiner takes Official Notice of "client/server architectures." While claim 7 does recite "client computers" and a "server computer," the claim includes additional aspects that the Examiner is not free to ignore. In particular, the claim recites "said server computer synchronizes and controls perturbation, testing and monitoring of said radio network." Thus, even if client/server architectures were well known at the time of Applicant's invention, client/server architectures, standing alone, do not teach, suggest, or motivate a server computer that "synchronizes and

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controls perturbation, testing and monitoring."

Furthermore, with respect to claims 9 and 14, the Examiner takes Official Notice of interruptible power supplies that are "interruptible under control of said radio monitoring means and said server computer." Applicant respectfully reminds the Examiner that Official Notice should be used only in cases when the noticed facts are "of notorious character and serve only to 'fill in the gaps' in an insubstantial manner." MPEP 2144.03(E). Thus, even if interruptible power supplies are well known, it is hard to see how such power supplies, under the control of both a "radio monitoring means" and a "server computer," taken as a whole can be considered an insubstantial gap filler.

In Response to Applicant's challenge of Well known art, the Examiner submits the following prior art as evidence.

Charych US Patent No.: 4,564,767 – col. 3 lines 5-10 interruptible power supply known in the art.

Farcasiu US Patent Pub. No.: 20040229654. – paragraph 0016 teaches a mobile server providing synchronization.

Conclusion

For at least the forgoing reasons, independent claims 1, 11, and 16 are not allowable in view of Rimpela. In addition, dependent claims 2, 5-10, 12-14, and 17-20 are believed not to be allowable at least by virtue of their dependencies.

Claim Rejections - 35 USC § 102

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 6, 12-13 and 16-20 rejected under 35 U.S.C. 102(b) as being anticipated by Rimpela WO 00/51380.

Consider **claims 1, 11 and 16**, Rimpela teaches a radio device testing system and method comprising: a radio device having a software radio stack including a plurality of logical layers through which radio messages (e.g., see at least the abstract and response to arguments above. This limitation has been admitted as prior art also) comprising data are processed in accordance with a radio protocol (e.g., see at least page 7 lines 1-8), test control means for controlling and monitoring testing of said one radio device via a link there between (e.g., see at least figure 2 and page 10 lines 1-17), stack perturbation means linked to said stack and to said control means for under control of said test control means, altering data of a radio message en route through one of said plurality of logical layers of said software radio stack(i.e., perturbation is performed by testing means. the test control means provides data included in messages to the perturbation means and providing response data to the test control means. Sending a special test message and operating according to instructions given be the testing apparatus. See also response to remarks where the above noted limitation in based on the means to generate a particular test message) (e.g., see at least page 14 line 10- page 15 line 15).

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Consider **claims 2 and 19**, Rimpela teaches a testing system according to claim 1, wherein wherein said stack perturbation means is linked to at least one of said layers in said software radio stack (**i.e., perturbation is performed by testing means**)(e.g., see at least page 14 line 10- page 15 line 15 and figure 3).

Consider **claims 6 and 18 and as applied to claims 1 and 17**, Rimpela teaches a testing system further comprising radio message monitoring means for intercepting over the air radio messages and supplying said message data to said test control means via a link therebetween (**i.e., the radio uplink and downlink messages are directed towards the testing means**)(e.g., see at least figure 2 and related description).

Consider **claims 12 and 17 and as applied to claims 11 and 16**, Rimpela teaches a testing further comprising analyzing said response data (**i.e., analysis as part of the testing basis to determine results**)(e.g., see at least abstract page 8 line 15 – page 9 line 10).

Consider **claims 13 and 18 and as applied to claims 12 and 17**, Rimpela teaches wherein over air radio messages are monitored by a radio message monitoring means(e.g., **testing apparatus as noted in figure 2**), and further provided to said test control means for analysis together with said response data (**e.g., see at least page 14 line 10- page 15 line 15 and figures 2 and 3**).

Consider **claim 20**, Rimpela teaches a method according to claim 11 wherein altering data of a radio message includes altering, under control of a stack perturbation module linked to said software radio stack and to said test controller, the data of the radio message en route through the one logical layer of said software radio stack(**i.e., perturbation is performed by testing means**)(e.g., see at least page 14 line 10- page 15 line 15 and figure 3).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims **5 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rimpela WO 00/51380 in view of Admitted Prior Art (APA)

Consider **claims 5 and 10 and as applied to the testing system according to claim 1**, Rimpela teaches the claimed invention except further comprising storage means for receiving and storing test data from said test control means and perturbation means in a central data file.

However, Applicants APA in at least **paragraphs 0008 and 0026** admits that it's known in the art to provide storage means for receiving and storing test data from said test control means and perturbation means in a central data file (**i.e., log, decode and analyze**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Rimpela to include storage means for receiving and storing

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test data from said test control means and perturbation means in a central data file for the purpose of data analysis.

6. Claims **7-9 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rimpela WO 00/51380 in view of Well Known Art.

Consider **claim 7** and as applied to testing system according to claim 1, Rimpela teaches the claimed invention except wherein said test and control means comprises a distributed system of client computers under the control of a server computer, each client being linked to at least one radio device and respective perturbing means, the radio devices linked to said clients thereby forming a radio network and wherein said server computer synchronizes and controls perturbation, testing and monitoring of said radio network.

However, the Examiner takes official Notice that client/server architectures are notoriously well known in the art.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Rimpela to include wherein said test and control means comprises a distributed system of client computers under the control of a server computer, each client being linked to at least one radio device and respective perturbing means, the radio devices linked to said clients thereby forming a radio network and wherein said server computer synchronizes and controls perturbation, testing and monitoring of said radio network for the purpose of managing a distributed computing platform as is well known in the art.

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Consider **claim 8** and as applied to testing system according to claim 6, Rimpela teaches the claimed invention except further comprising an interruptible power supply for supplying power to the radio devices under test.

However, the Examiner takes official Notice that interruptible power supply for supplying power are notoriously well known in the art.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Rimpela to include interruptible power supply for supplying power for the purpose of backup as is well known in the art. A person of ordinary skill in the art would be further motivated not to interrupt testing due to a loss of power which could possibly result in damage to the DUT(i.e., device under test).

Consider **claims 9 and 14** and as applied to testing system according to claims 8 and 12, Rimpela teaches the claimed invention except wherein said power supply is interruptible under control of said radio monitoring means and said server computer.

However, the Examiner takes official Notice that wherein said power supply is interruptible under control of said radio monitoring means and said server computer are notoriously well known in the art.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Rimpela to include wherein said power supply is interruptible under control of said radio monitoring means and said server computer for the purpose of backup and managing a distributed computing platform as is well known in the art. A person of ordinary skill in the art would be further motivated to control power during testing of the DUT(i.e., device under test).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles Shedrick/
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617